ATTACHMENT J3 **(REVISED UNDER AMENDMENT 0014)**

Fort Hood Water Distribution System

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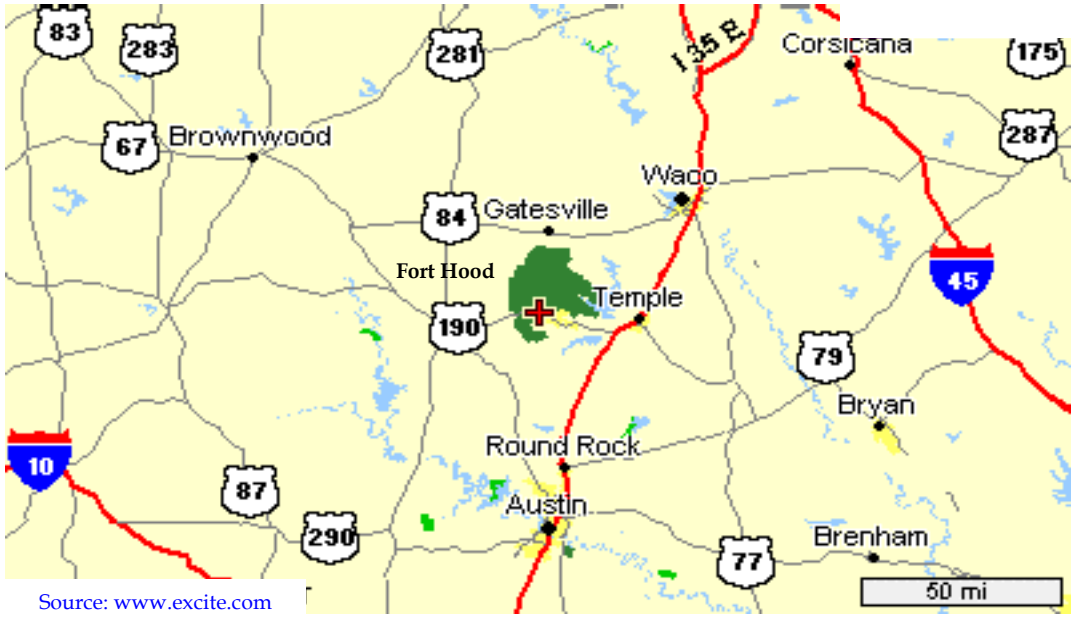
J3 Fort Hood Water Distribution System

J3.1 Fort Hood Overview

Fort Hood is located in central Texas, approximately 65 miles north of Austin and approximately 20 miles west of Interstate Highway 35 along U.S. Highway 190. **Figure 1** shows Fort Hood's location in central Texas. The Post covers approximately 339 square miles, straddling Coryell and Bell counties and abutted to the east by the City of Killeen, Texas and to the west by the City of Copperas Cove, Texas.

FIGURE 1
Fort Hood, Texas
Water Distribution System, Fort Hood, Texas

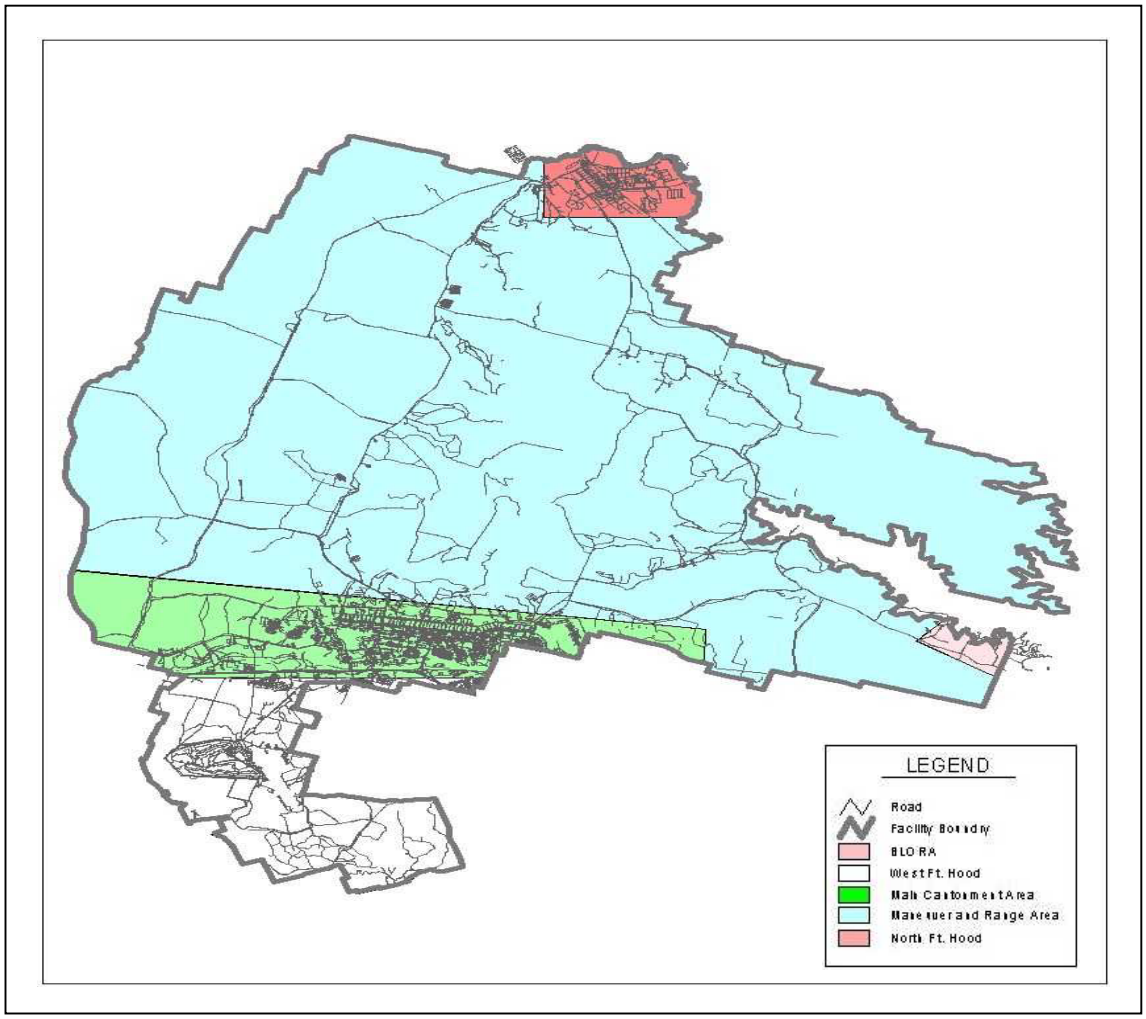


Fort Hood consists of the Main Cantonment area, West Fort Hood, North Fort Hood, maneuver and live-training areas (the Ranges), and the Belton Lake Outdoor Recreation Area (BLORA). These areas are depicted in **Figure 2**. The Main Cantonment area represents the original site for South Camp Hood. The site was originally selected in 1941 and construction started 1942. Construction of North Camp Hood, which is now known as North Fort Hood, started shortly thereafter and approximately 17 miles to the north. South Camp Hood was designated as Fort Hood in 1951. Approximately 244 square miles of land between North Fort Hood and the Main Cantonment area is used for maneuvers and live

fire exercises. Fort Hood has two active airfields: Hood Army Airfield and Robert Gray Airfield. Hood Army Airfield is located on the eastern edge of the Cantonment area and Robert Gray Airfield is located on West Fort Hood. BLORA is located on the eastern most portion of Fort Hood.

Fort Hood's primary mission is to prepare both active and reserve military components for deployment and execution of military and domestic missions worldwide. The Post is distinctive in that it is the only military installation in the United States capable of stationing and training two armored divisions. A major element of Fort Hood's mission is derived from its extensive training areas. The maneuver and training areas within the Ranges are used to simulate battlefield conditions and support infantry, armor, artillery, and air training operations.

FIGURE 2
Major Areas of Fort Hood, Texas
Water Distribution System, Fort Hood, Texas



J3.2 Water Distribution System Description

J3.2.1 Water Distribution System Fixed Equipment Inventory

The Fort Hood potable water distribution system consists of the network and all associated appurtenances physically connected to the system between the demarcation points of government ownership from supplier and distribution to end-users. The system may include, but is not limited to, pipelines, valves, fire hydrants, storage facilities, exterior backflow prevention devices, pumps, and meters. The actual inventory of items sold will be conveyed to the Contractor using the Bill of Sale shown in Attachment J42 to the RFP at the time the system is transferred.

The following description and inventory is included to provide the Contractor with a general understanding of the size and configuration of the distribution system. The description and inventory were developed based on best available data.

The Offeror shall base its proposal on site inspections, information in the technical library, and other pertinent information, as well as the following description and inventory. If after award the Offeror identifies additional inventory not listed in section J3.2.1.3, the Offeror may submit to the Contracting Officer a request for an equitable adjustment. If the Offeror determines that the inventory listed in section J3.2.1.3 is overstated, the Offeror shall report the extent of the overstatement to the Contracting Officer, who will determine an equitable adjustment.

J3.2.1.1 Description

The potable water distribution system at Fort Hood supplies water for residential, industrial, and fire fighting purposes on the Main Cantonment area, West Fort Hood, North Fort Hood, and BLORA. The system serves approximately 3,517 facilities on the Main Cantonment area, 91 facilities on West Fort Hood, 124 facilities on North Fort Hood, and 7 facilities at BLORA.

Fort Hood's water distribution system consists of water storage tanks, pump stations, distribution mains, valves, valve boxes, service lines, fire hydrants, and meters. Construction of the water distribution system infrastructure began in the early 1940s and continues today as the installation grows. Cathodic protection system components, including anodeless risers and test stations, are considered part of the water distribution system although they are not specifically called out in the utility system inventory presented below.

Specifically excluded from the water distribution system privatization are:

- Non-potable systems associated with washracks.
- Deluge tanks and pump stations associated with fire protection systems.
- Irrigation systems.

The Fort Hood water distribution system is physically separated into three distribution systems. One system serves the Main Cantonment area and West Fort Hood, the second serves North Fort Hood, and the third serves BLORA.

J3.2.1.1.1 Main Cantonment Area and North Fort Hood

Belton County Water Control and Improvement District No. 1 (BCWCID) supplies water to the Main Cantonment and West Fort Hood. A 54-inch transmission main supplies water to the three ground storage reservoirs. These reservoirs are owned by BCWCID and located on Fort Hood property near the intersection of Highways 190 and 195. Water flows into these reservoirs through a 30-inch line, BCWCID metering station, and Fort Hood's main pump station (Bldg. 6898). Water supply is also available through alternate 18 and 24-inch BCWCID lines. Ownership of the 30-inch main changes from BCWCID to Fort Hood at the meter house.

In the vicinity of Bldg. 6898, another point of demarcation exists. This second point of demarcation is on a 24-inch line that provides direct feed from the BCWCID ground storage tanks to the eastern-most below-grade storage tank owned by Fort Hood, Bldg. 6895, adjacent to pump station 6898. The flanged fitting where the 24-inch line feeds the storage tank marks the point of demarcation between BCWCID and Fort Hood.

The next point of demarcation is found at the Bldg. 69010 pump and meter station. This station serves as an interconnect between Fort Hood's water distribution system and a Copperas Cove transmission main line that runs parallel to and north of Highway 190. Water is supplied to Bldg. 69010 through a 20-inch Copperas Cove transmission line. This connection facilitates metered water sharing between Fort Hood and BCWCID systems. From Bldg 69010, water is delivered to storage tank 4655, the main pump station, and the Fort Hood distribution system via two 20-inch concrete lines installed in the mid-eighties. The point of demarcation at this facility is the shutoff valve on the upstream side (BCWCID side) of the Bldg. 69010 pump.

J3.2.1.1.2 North Fort Hood

The City of Gatesville supplies water to North Fort Hood through a 16-inch transmission main that bisects North Fort Hood along Texas Hwy 36. At North Fort Hood, water is stored in a 1.5 million-gallon storage tank (Facility 57130). The storage tank is located just to the south of the bottom border of North Fort Hood Grid NFH28 along a dirt road that runs approximately one mile southwest starting at Texas Highway 36. The point of demarcation is the last valve on the City of Gatesville transmission line feeding into the storage tank.

J3.2.1.1.3 BLORA

BCWCID supplies water to BLORA via a 6-inch tap off the BCWCID transmission main that feeds the Main Cantonment area approximately 10 miles to the west. The first valve branching off the BCWCID main along the 6-inch line marks the point of demarcation between BCWCID and Fort Hood ownership for the BLORA system.

J3.2.1.2 Points of Demarcation

The Fort Hood potable water distribution system being studied consists of all components from the point where the Post takes ownership from the supplier to the point where water is supplied to end-users. The beginning point of demarcation was described above in sections J3.2.1.1.1 through J3.2.1.1.3. The point of demarcation for each end user is defined as the

point or component on the distribution system where ownership changes from the utility owner to the building owner. In most cases the point of demarcation is the first upstream component (i.e., meter, valve, regulator, etc.) of the system located outside of the facility footprint. **Table 1** identifies the type of service and general location of the point of demarcation with respect to each building served by the distribution system.

TABLE 1
Water Distribution System Points of Demarcation
Water Distribution System, Fort Hood, Texas

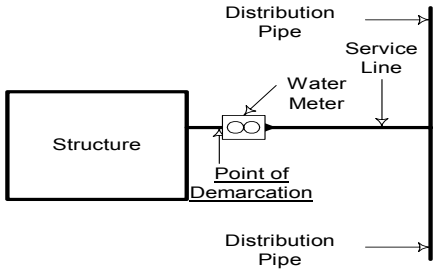
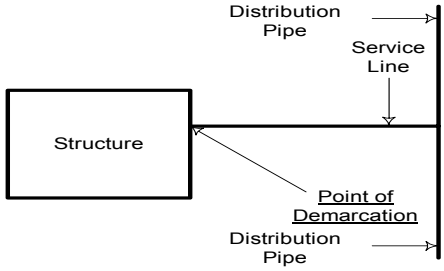
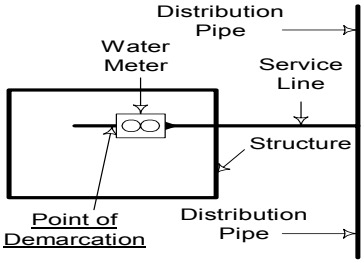
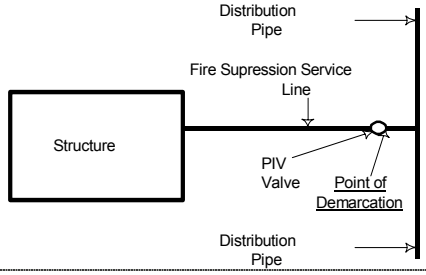
Point of Demarcation	Applicable Scenario	Sketch
Point of demarcation is the downstream side of the water meter or valve (closest apparatus to the exterior of the structure)	Non-residential service. Water meter or valve is located on the service line entering the structure within 25 feet of the exterior of the structure.	
Point where the service line enters the structure. *Note: Service valve may be installed within 25 feet of the structure at any time. Downstream side of the service valve will become the point of demarcation.*	Non-residential service. No water meter, backflow prevention device, or valve exists on the service line entering the structure within 25 feet of the exterior of the structure.	
Point of demarcation is the downstream side of the Water Meter.	Non-residential service. Water meter is located on the service line entering the structure within the structure.	
Point of demarcation is the upstream side of the PIV valve.	Non-residential service. Fire suppression system on dedicated feed from water main.	

TABLE 1
Water Distribution System Points of Demarcation
Water Distribution System, Fort Hood, Texas

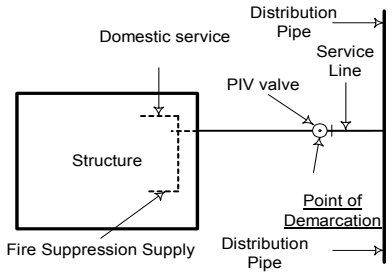
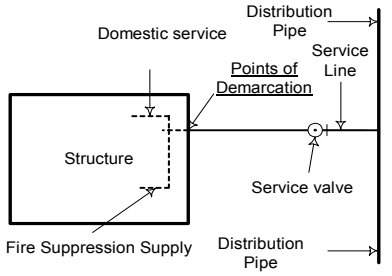
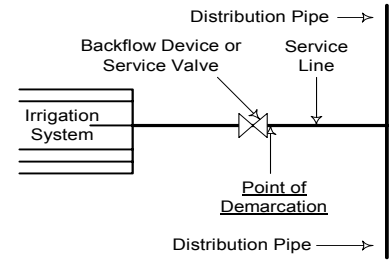
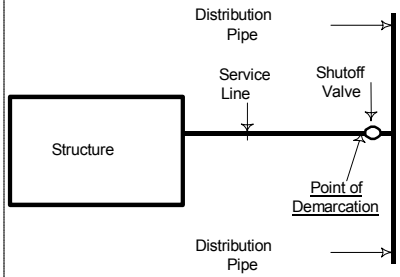
Point of Demarcation	Applicable Scenario	Sketch
Point of demarcation is the upstream side of the PIV valve.	Non-residential service. Fire suppression system on the same feed as domestic service from water main and service line has PIV valve.	
Point of demarcation is where the service enters the building. *Note: Service valve may be installed within 25 feet of the structure at any time. Service valve will become the point of demarcation.*	Non-residential service. Fire suppression system on the same feed as domestic service from water main and service line does not have PIV valve or service valve within 25 feet of structure.	
Point of demarcation is the upstream side of the backflow prevention device or service valve.	Non-residential service. Irrigation system fed directly from distribution system or backflow prevention device exists on the service line entering the structure.	
Point of demarcation is the downstream side of the shutoff valve. *Note: Point of demarcation for residential services is complimentary to the point of demarcation established by Fort Hood Family Housing initiative. All components of the water distribution system not included as a part of the residence are included with*	Residential service.	

TABLE 1
Water Distribution System Points of Demarcation
Water Distribution System, Fort Hood, Texas

Point of Demarcation	Applicable Scenario	Sketch
water distribution system included for privatization.		

Note:
All water meters, including instrumentation, wiring, etc., will be transferred with the water distribution system to the Contractor.

J3.2.1.3 Inventory

The potable water distribution piping system consists of approximately 315 miles of buried piping ranging in size from 0.5-inch service lines to 30-inch main lines. There are 18 water storage tanks and 12 pump stations (five of which are directly associated with a water storage tank) to manage system pressure throughout the Post. Other components include fire hydrants, valves, and meters. Detailed inventories of the potable water distribution system piping, water storage tanks, pump stations, and other system components are shown in **Tables 2, 3, 4,** and **5** respectively.

TABLE 2
Water Distribution Piping Summary
Water Distribution System, Fort Hood, Texas

Component	Type	1945	1955	1965	1975	1985	1995	2000	Grand Total
		All values reported are total linear feet							
AC Pipe	4 in.	91	1,760	2,298	10,443	94	0	0	14,686
	6 in.	22,197	38,627	52,776	50,459	2,055	189	0	166,303
	8 in.	6,273	31,544	64,011	27,747	25,960	0	0	155,535
	10 in.	0	5,605	10,371	11,012	0	0	0	26,988
	12 in.	3,496	1,053	23,312	10,693	0	0	0	38,554
	14 in.	0	587	0	0	0	0	0	587
	16 in.	400	680	1,132	60	0	0	0	2,272
	18 in.	116	0	345	0	0	0	0	461
	20 in.	0	1,559	194	859	0	0	0	2,612
AC Total Pipe		32,572	81,414	154,440	111,273	28,109	189	0	407,997
C-900 Pipe	0.75 in.	0	0	0	0	308	0	0	308

TABLE 2
Water Distribution Piping Summary
Water Distribution System, Fort Hood, Texas

Component	Type	1945	1955	1965	1975	1985	1995	2000	Grand Total
		All values reported are total linear feet							
	1 in.	0	0	0	0	321	1,593	0	1,914
	1.5 in.	0	0	0	0	69	0	0	69
	2 in.	0	0	0	0	0	2,503	0	2,503
	2.5 in.	0	0	0	0	0	90	0	90
	3 in.	0	0	0	0	8	1,125	0	1,133
	4 in.	0	0	0	0	1,335	580	0	1,915
	6 in.	0	0	0	0	2,405	12,344	0	14,749
	8 in.	0	0	0	0	3,560	31,084	0	34,644
	10 in.	0	0	0	0	3,477	2,295	0	5,772
	12 in.	0	0	0	0	7,659	17,085	0	24,744
	16 in.	0	0	0	0	24,645	1,228	0	25,873
	20 in.	0	0	0	0	0	877	0	877
C-900 Total Pipe		0	0	0	0	43,786	70,804	0	114,590
CI/DI Pipe	0.5 in.	0	0	0	70	0	0	0	70
	1 in.	9,189	12,659	6,262	7,020	145	0	0	35,275
	1.25 in.	1,319	8,853	0	584	0	0	0	10,756
	1.5 in.	1,987	4,357	963	7,920	0	0	0	15,227
	2 in.	4,992	4,238	10,452	3,278	0	0	120	23,080
	2.5 in.	1,099	66	230	3,584	0	0	0	4,979
	3 in.	1,070	1,354	10,041	2,552	0	0	0	15,017
	4 in.	2,904	904	531	8,227	0	0	0	12,566
	6 in.	57,813	29,549	23,095	20,225	918	1,123	267	132,990
	8 in.	25,424	21,258	26,979	15,125	2,609	1,130	0	92,525
	10 in.	21,287	4,564	10,631	10,361	0	0	466	47,309
	12 in.	11,703	0	391	5,890	1,120	0	0	19,104
	14 in.	0	200	0	0	0	0	0	200
	16 in.	828	0	0	12,823	0	0	0	13,651
	18 in.	576	0	0	0	317	0	0	893
	20 in.	0	0	6,111	69	0	0	0	6,180
	24 in.	0	0	0	0	704	0	0	704

TABLE 2
Water Distribution Piping Summary
Water Distribution System, Fort Hood, Texas

Component	Type	1945	1955	1965	1975	1985	1995	2000	Grand Total
		All values reported are total linear feet							
	30 in.	0	0	0	0	922	0	0	922
CI/DI Total Pipe		140,190	88,002	95,686	97,728	6,735	2,253	853	431,447
CONCRETE Pipe	16 in.	0	7,276	0	0	0	0	0	7,276
	20 in.	0	2,538	0	19	19,421	0	0	21,978
	24 in.	0	0	0	0	8,549	0	0	8,549
CONCRETE Total Pipe		0	9,814	0	19	27,970	0	0	37,803
CU Pipe	0.75 in.	0	0	136	0	0	0	0	136
	1 in.	5,368	23,926	76,450	0	0	0	0	105,744
	1.25 in.	511	533	18,392	0	0	0	0	19,436
	1.5 in.	1,011	450	1,705	0	0	0	0	3,166
CU Total Pipe		6,891	24,909	96,683	0	0	0	0	128,483
PVC Pipe	0.375 in.	0	0	0	231	0	0	0	231
	0.5 in.	0	0	0	0	0	23	0	23
	0.75 in.	0	0	0	9,734	519	689	0	10,942
	1 in.	0	0	1,453	11,600	27,330	14,990	108	55,481
	1.25 in.	0	0	0	50,457	4,793	2,547	0	57,797
	1.5 in.	0	0	0	6,968	5,481	8,427	86	20,962
	1.75 in.	0	0	0	0	0	8	0	8
	2 in.	0	0	534	5,592	34,756	14,099	72	55,053
	2.5 in.	0	0	0	827	3,115	809	0	4,751
	3 in.	0	0	326	476	2,280	2,987	0	6,069
	4 in.	0	0	0	1,011	14,434	1,726	14	17,185
	6 in.	0	0	0	2,650	66,174	24,577	457	93,858
	8 in.	0	0	0	3,393	62,640	44,925	403	111,361
	10 in.	0	0	0	16	5,257	12,220	4,243	21,736
	12 in.	0	0	0	3,806	2,441	6,470	0	12,717
	14 in.	0	0	0	0	954	0	0	954
	16 in.	0	0	0	3,343	7,876	0	0	11,219
	18 in.	0	0	0	0	2,997	2,584	0	5,581
	20 in.	0	0	0	0	1,380	0	0	1,380

TABLE 2
Water Distribution Piping Summary
Water Distribution System, Fort Hood, Texas

Component	Type	1945	1955	1965	1975	1985	1995	2000	Grand Total
		All values reported are total linear feet							
	24 in.	0	0	0	0	26,904	0	5,463	32,367
PVC Total Pipe		0	0	2,312	100,103	269,333	137,081	10,846	519,675
STEEL Pipe	2 in.	1,744	5,554	5,945	0	0	0	0	13,243
	2.5 in.	377	3,298	1,286	0	0	192	0	5,153
	3 in.	624	327	1,551	1,353	0	0	0	3,855
STEEL Total Pipe		2,745	9,179	8,782	1,353	0	192	0	22,251
Grand Total Pipe		182,398	213,319	357,902	310,476	375,933	210,519	11,699	1,662,246

TABLE 3
Water Distribution System Storage Facilities
Water Distribution System, Fort Hood, Texas

Description	Size	Year of Construction
Tank 11000, Concrete, Elevated	1 MG	1955
Tank 1673, Steel, Elevated	0.5 MG	1947
Tank 20145, Steel, Aboveground	0.064 MG	1977
Tank 4001, Steel, Elevated	0.5 MG	1942
Tank 4655, Steel, Elevated	1.5 MG	1967
Tank 51604, Steel, Elevated	1 MG	1976
Tank 5486, Steel, Elevated	0.5 MG	1968
Tank 57130, Concrete, Aboveground	1.5 MG	1986
Tank 6891, Concrete, Underground	1 MG	1942
Tank 6893, Concrete, Underground	0.75 MG	1942
Tank 6895, Concrete, Underground	0.75 MG	1942
Tank 88025, Steel, Elevated	0.5 MG	1990
Tank 90010, Steel, Elevated	0.15 MG	1970
Tank 90062A, Steel, Aboveground	0.005 MG	1963
Tank 90062B, Steel, Aboveground	0.005 MG	1963
Tank 92069, Steel, Elevated	0.075 MG	1969
Tank 92081, Concrete, Underground	0.1 MG	1969
Tank 92082, Concrete, Underground	0.1 MG	1969

TABLE 4
Water Distribution System Pump Stations
Water Distribution System, Fort Hood, Texas

Pump Station/Pumps	Component	Size	unit	Year of Construction
Pump Station 20145	Building	110	Sf	1977
1 pump @ 15 HP	Mechanical	15	Hp	1977
Pump Station 51600 (NIS)	Building	150	Sf	1976
Pump Station 6898	Building	4,442	Sf	1963
1 pump @ 100 HP	Mechanical	100	Hp	1983

TABLE 4
Water Distribution System Pump Stations
Water Distribution System, Fort Hood, Texas

Pump Station/Pumps	Component	Size	unit	Year of Construction
1 pump @ 200 HP	Mechanical	200	Hp	1983
1 pump @ 300 HP	Mechanical	300	Hp	1983
1 pump @ 500 HP	Mechanical	500	Hp	1983
1 pump @ 500 HP	Mechanical	500	Hp	1983
Generator	Mechanical	750	kW	1983
Pump Station 69010	Building	240	Sf	1986
1 pump @ 100 HP	Mechanical	100	Hp	1986
Pump Station 7033	Building	200	Sf	1998
1 pump @ 10 HP	Mechanical	10	Hp	1998
Pump Station 90059	Building	64	Sf	1963
1 pump @ 10 HP	Mechanical	10	Hp	1983
Pump Station 90061	Building	64	Sf	1963
1 pump @ 10 HP	Mechanical	10	Hp	1983
Pump Station 92085	Building	252	Sf	1969
1 pump @ 20 HP	Mechanical	20	Hp	1989
1 pump @ 20 HP	Mechanical	20	Hp	1989
Pump Station 92086	Building	100	Sf	1969
1 pump @ 20 HP	Mechanical	20	Hp	1989
Pump Station 93008	2 pumps	373	Sf	1969
1 pump @ 25 HP	Mechanical	25	Hp	1989
1 pump @ 25 HP	Mechanical	25	Hp	1989
Pump Station 93022	3 pumps	753	Sf	1969
1 pump @ 75 HP	Mechanical	75	Hp	1989
1 pump @ 75 HP	Mechanical	75	Hp	1989
1 pump @ 20 HP (NIS) [a]	Mechanical	20	Hp	1989

Note:
[a] 20-HP pump is configured to support the out-of-service fire protection deluge tank 93023.

TABLE 5
Water Distribution System Component Summary
Water Distribution System, Fort Hood, Texas

		Approximate Year of Construction							
Component	**Size**	**1945**	**1955**	**1965**	**1975**	**1985**	**1995**	**2000**	**Total**
		Values reported are total number of units							
Fire Hydrants	5.25 in.	269	278	318	218	239	243	11	1,576
BUTTERFLY Valve	12 in.	0	0	0	0	0	6	0	6
BALL Valve	0.5 in.	0	0	0	1	0	0	0	1
	0.75 in.	0	0	0	0	2	1	0	3
	1 in.	71	871	1,807	114	80	278	3	3,224
	1.25 in.	8	4	403	31	5	11	0	462
	1.5 in.	8	0	7	17	17	19	0	68
	1.75 in.	0	0	0	0	0	1	0	1
	2 in.	16	25	46	35	44	32	1	199
	2.5 in.	3	22	12	25	12	2	0	76
	3 in.	6	7	30	20	9	30	0	102
	4 in.	9	31	18	48	23	15	1	145
	6 in.	109	93	128	103	118	74	1	626
	8 in.	38	76	137	73	83	74	1	482
	10 in.	32	8	20	32	11	17	2	122
	12 in.	17	2	20	28	13	35	0	115
	14 in.	0	0	0	0	10	0	0	10
	16 in.	1	7	1	9	22	0	0	40
	18 in.	4	0	0	0	4	2	0	10
	20 in.	0	0	8	5	4	1	0	18
	24 in.	0	0	0	0	12	0	3	15
BALL Valve Total		322	1,146	2,637	541	469	592	12	5,719
GATE Valve	1 in.	0	1	0	0	0	0	0	1
	1.25 in.	0	0	0	3	0	0	0	3
	2.5 in.	0	0	0	0	0	1	0	1
	3 in.	0	0	1	0	1	1	0	3
	4 in.	0	0	0	0	1	1	0	2

TABLE 5
Water Distribution System Component Summary
Water Distribution System, Fort Hood, Texas

		Approximate Year of Construction							
Component	**Size**	**1945**	**1955**	**1965**	**1975**	**1985**	**1995**	**2000**	**Total**
		Values reported are total number of units							
	6 in.	16	11	12	23	23	45	7	137
	8 in.	0	1	8	1	6	23	1	40
	10 in.	0	0	2	0	1	11	4	18
	12 in.	1	0	1	0	0	0	0	2
GATE Valve Total		17	13	24	27	32	82	12	207
PRESSRED Valve	1 in.	0	0	0	0	0	1	0	1
	1.25 in.	0	0	0	13	0	0	0	13
	1.5 in.	0	0	1	3	0	3	0	7
	2 in.	4	0	0	7	0	0	0	11
	2.5 in.	1	0	0	0	0	2	0	3
	6 in.	0	0	0	0	1	5	0	6
PRESSRED Valve Total		5	0	1	23	1	11	0	41
PRESSRELIEF Valve	1 in.	0	1	0	0	1	0	0	2
	1.25 in.	0	0	0	1	2	0	0	3
	1.5 in.	0	0	0	0	2	0	0	2
	2 in.	0	0	1	1	2	0	0	4
	4 in.	0	0	1	1	4	0	0	6
	6 in.	0	1	2	6	23	0	0	32
PRESSRELIEF Valve Total		0	2	4	9	34	0	0	49
TURBINE Meter		0	0	0	0	162	56	0	218

J3.2.2 Water Distribution System Non-Fixed Equipment and Specialized Tools

Table 6 lists other ancillary equipment (spare parts), and **Table 7** lists specialized vehicles and tools included in the purchase. Offerors shall field verify all equipment, vehicles, and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment, vehicles, and tools.

TABLE 6
Spare Parts
Water Distribution System, Fort Hood, Texas

Qty	Item	Make/Model	Description	Remarks
No spare parts are included with the Fort Hood Natural Water Distribution System				

TABLE 7
Specialized Vehicles and Tools
Water Distribution System, Fort Hood, Texas

Qty	Item	Make/Model	Description	Remarks
No specialized vehicles or tools are included with the Fort Hood Natural Water Distribution System				

J3.2.3 Water Distribution System Manuals, Drawings, and Records

Table 8 lists the manuals, drawings, and records that will be transferred with the system.

TABLE 8
Manuals, Drawings, and Records
Water Distribution System, Fort Hood, Texas

Qty	Item	Description	Remarks
1	Electronic	CAD Drawings	Electronic Copy
1	Electronic Database	GIS Database	Electronic Copy
3	O&M Manuals	Manuals for O&M of system components	Hard Copy
4	Inspection Reports	System component inspection reports	Hard Copy
3	Reports	System Analysis/Performance Reports	Hard Copy
2	Reports	Utility Studies	Hard Copy

Note: Manuals, drawings, records, and reports included with the Fort Hood Water Distribution System are included in the Bidders' Library.

J3.3 Specific Service Requirements

The service requirements for the Fort Hood water distribution system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the Fort Hood water distribution system and are in addition to those found in Section C. If there is a conflict between requirements described below and Section C, the requirements listed below take precedence over those found in Section C.

- Non-Government Installed Utilities Infrastructure. Prior to, during, and after award of this contract, the Residential Commercial Initiative Limited partnership (Fort Hood

Family Housing – FHFH) may cause new installation of utilities infrastructure from the Government's existing Utility Systems to the Points of Demarcation of newly constructed housing units. The Contractor shall purchase this new construction, known as "Partnership Utility System Facilities" from FHFH as directed by Contracting Officer. After purchase, the Contractor shall then own, operate, expand, upgrade, maintain, repair and replace the newly purchased infrastructure and serve the new housing areas to standards established by this contract. The Contractor shall purchase the fully completed Partnership Utility System Facilities and shall purchase the FHFH-contracted infrastructure following its construction and connection to the Contractor-owned system. Contractor shall complete payment for purchased infrastructure within 60 days of written notice by the FHFH Partnership. The purchase and transfer of such property shall be per formal written agreement between the Contractor and FHFH. The Contractor shall take all necessary steps to transfer warranties obtained by the FHFH Partnership with respect to the Partnership Utility System Facilities; to the extent such warranties are assignable to the Contractor.

- Digging Permits. Contractor shall provide all digging permits which may impact on the integrity of his Utility Systems and the safety of the requestors. Contractor shall routinely accept and promptly process digging permit requests from Government work force; military units; FHFH partnership; maintenance, construction, and Army operations contractors; cable and phone maintenance and installation companies; fence rental companies; individual residents; and additional entities as identified by Contracting Officer to have a valid need for a digging permit. Contractor shall identify methodology of accepting, processing, approving, and listing reason(s) for disapproval.
- The Contractor shall obtain digging permits directly from the Fort Hood Department of Public Works (DPW) for utilities owned by the Government before any drilling, digging, or excavation is undertaken. Provide a completed form FHT 420-X10, Coordination for Land Excavation, to the DPW building 4612, Fort Hood, Texas for each permit. Allow 14 days for Government review of digging permit requests. A digging permit for a specified area of excavation expires 30 days after the issue date; Contractor must re-apply for a new permit to perform excavation in the area if the excavation was not started within the 30-day period. Permits will identify all underground utilities within 1,500 mm (5 feet) of the designated area. Contractor shall be responsible for all repairs, costs, and damages due to excavation.
- The Contractor shall coordinate with and obtain written approval from Fort Hood Range Control prior to performing any maintenance, repairs, construction, or other work on the water distribution system in the Ranges (all areas managed and controlled by Fort Hood Range control).
- The Contractor shall own, operate, maintain, and calibrate all water meters on Fort Hood. All new meters and replacement meters installed shall meet industry standard requirements for measuring water consumption and shall be connected to the Automatic Meter Reading (AMR) system unless otherwise agreed to by both parties. All new meters and replacement meters installed shall be tested to confirm successful connection and transmission of water consumption data to the AMR system. The Contractor shall provide all labor, equipment or materials necessary to install, connect, test, and calibrate meters.

- The Contractor shall provide monthly meter reading reports in accordance with (IAW) Paragraph J3.6, and that meet the following requirements:
  - The Contractor shall keep meter books with monthly consumption and demand (if applicable) for each meter reading. Meter books shall also include building address or facility number, meter number, previous month readings, current month readings, meter ratios, total monthly consumption, points of contact for meter questions, and procedure for converting meter reads into consumption (including multipliers). The Contractor shall coordinate with the Government to determine the format for meter books to be delivered.
  - Commodities shall be metered for consumption, demand, run-time, or other measurement (including interval data such as 15-minute demand logging and specific electronic format) as directed by Contracting Officer. In the proposal, Contractor shall identify methodology of assigning initial and recurring costs to the design, installation, operation (testing, calibrating, and reading), expansion, upgrade, repair, and replacement of each meter type.
- The Contractor shall own, operate, and maintain emergency generators that serve the Contractor's infrastructure and facilities.
- The Contractor shall allow the Government access to operate and maintain any communication equipment, obstruction lights, beacon lighting, emergency warning equipment, public address equipment, and other Government equipment on water storage tanks being privatized. The Contractor shall develop a procedure for granting the Government access. This procedure shall be submitted to the Contracting Officer for approval.
- Cost Allocation and Sales Rate Construction. In the proposal, the Contractor shall identify methodology for allocating appropriate cost associated with distinct services among customers (i.e. residential, federal and non-federal). At a minimum, this allocation shall distinguish between shared and non-shared infrastructure (residential versus all other) and any extension or modernization of an individual customer's service point beyond a normal economic standard. The proposed system of accounts shall be made available in electronic format as directed by the Contracting Officer. The Contractor shall populate the sales rate forms provided by the Government.
- The Contractor shall enter into a Memorandum of Understanding with the Fort Hood Fire Department for fire protection of all facilities included in the purchase of the utility. The MOU shall be completed during the transition period and a copy provided to the Contracting Officer.
- The Contractor shall abide by Fort Hood fire protection requirements. The utility system purchased by the Contractor may include facilities. These facilities may or may not include fire alarm systems. Where required by federal, state or local regulation, the Contractor shall maintain the fire alarm system for all facilities owned and operated by the Contractor. The Contractor shall permit Fire Department personnel access to their facilities to perform fire inspections and emergency response.

- The Contractor is responsible for all supporting utilities that may be required to own, operate and maintain the water distribution system being privatized. For example, electricity is needed to operate lift station pumps. Supporting utilities are defined as the supply of electricity, natural gas, water, or wastewater collection and any infrastructure or materials necessary to connect to the supply of electricity, natural gas, water, or wastewater collection. The Contractor shall coordinate with Fort Hood DPW and the Contracting Officer for any supporting utilities to be provided by Government owned utility systems.
- In accordance with (IAW) Paragraph C.9.8, *Exercises and Crisis Situations Requiring Utility Support*, the Contractor shall provide support as directed by the Fort Hood DPW or equivalent agency for exercises and crisis situations.
- The Contractor shall coordinate any change to the water distribution system that may affect fire protection with the Fort Hood Fire Department and the Fort Hood DPW. The Contractor shall coordinate replacement or changes to fire hydrants with the Fort Hood Fire Department and the Fort Hood DPW.
- The Contractor shall perform flow testing and maintenance of fire hydrants, valves and water lines IAW National Fire Protection Association standards. The Government reserves the right to review the Contractor's flow test records.
- The Contractor shall operate, maintain, and test the Post water system IAW Texas Natural Resource Conservation Commission (TNRCC) regulations. The Contractor shall provide the Contracting Officer with a copy of any and all testing information and reports submitted to the TNRCC.
- The Contractor shall own, maintain and operate the cathodic protection systems for the water storage tanks and other applicable metal components of the water distribution system.
- The Contractor shall maintain any Army markings on water storage tanks and shall coordinate with the Fort Hood DPW and obtain approval from the Contracting Officer before removing or applying any paint or markings to water storage tanks.

J3.4 Current Service Arrangement

Belton County Water Control and Improvement District No. 1 (BCWCID #1) supplies water to the Main Cantonment and West Fort Hood. Water is supplied by BCWCID through 18-inch, 24-inch, and 30-inch lines to the three ground storage reservoirs. These reservoirs are owned by BCWCID and located on Fort Hood property near the intersection of Highways 190 and 195. Water flows through these reservoirs in a 30-inch line through a BCWCID metering station and into Fort Hood's main pump station (Bldg. 6898). BCWCID also supplies water to BLORA through a 6-inch transmission main that also ties into the BCWCID transmission main that feeds the Main Cantonment area approximately 10 miles to the west. The City of Gatesville supplies water to North Fort Hood through a 16-inch transmission main that bisects North Fort Hood.

J3.5 Secondary Metering

Between the point of delivery and the end user points of demarcation, the Contractor shall own all existing meters and shall install additional meters at new and upgraded locations as directed by the Contracting Officer. Contractor shall install or cause to have installed utility meters as requested by the Contracting Officer to include accessories that will ensure compatibility with the current Automatic Metering Reading (AMR) system (i.e., Meter Interface Unit, electronic pulse equipment, retrofit kits, etc.). Contractor shall be responsible for all associated metering devices (such as CTs, PTs, wiring, and volt-amp displays). Some existing and future meters (including AMR interface) may be located inside facilities including motor control centers. The AMR will privatized in conjunction with the Fort Hood electric system, not in conjunction with the gas, water, or wastewater systems. The successful offeror for the Fort Hood electric system will operate, maintain and repair the AMR system IAW manufacturer recommendations and/or maintenance schedule.

J3.5.1 Existing Secondary Meters

Tables 9 and 10 list the existing (at the time of contract award) secondary meters that will be transferred to the Contractor. **Table 9** identifies meters that **are not** connected to the AMR system and **Table 10** identifies meters that **are** connected to the AMR system. The Contractor shall provide meter readings for all secondary meters IAW Paragraph C.3, Metering, J3.3, Specific Service Requirements, and J3.6, Monthly Submittals.

TABLE 9
Existing Secondary Meters **Not** Connected to the AMR System
Water Distribution System, Fort Hood, Texas

Owner	Bldg. No.	Address	Comment	Meter No.
AAFES Snack Bar	39014	67th and Support Ave	se corner in box	
AAFES Gas Sta, Main	224	42nd and HQ Ave	west side in pit	30849801
AAFES Package Store	50006	Clear Creek	50ft south in box	
AAFES 1CD	33012	73nd and Battalion	NW corner by mech rm	45428641
AAFES 2AD(sprinkler)	9401	20th and Bn Ave	nw of bldg near st.	48190153
AAFES Shoppette	1002	Hood Rd & HQ Ave	w of steps, s manhol	
AAFES Shoppette	325	37th and T-D Ave	se side in pit	17434078
AAFES Shoppette	52021	Copperas Cove Road	50ft west in box	
AAFES Launderette	8314	Martin & Central Dr	south side in box	26468793
AAFES Shoppette	85001	Martin & Central Dr	north side in box	
AAFES Shoppette	70012	West Ft Hood		
Army Res Reg Trng Ct	33010	Support Ave & 72nd	east side	2682292
ASAS (JTF) Field Off	90089adj	Mohawk Rd	s side of ne trailer	
ASAS (JTF) Field Off	90089adj	Mohawk Rd	n of metal bldg, pit	47130220

TABLE 9
Existing Secondary Meters **Not** Connected to the AMR System
Water Distribution System, Fort Hood, Texas

Owner	Bldg. No.	Address	Comment	Meter No.
CECOM	453	BLDG 453		
CECOM	451	451		
Commissary	85020	10th St & WarriorWay	sw crnr of bldg, pit	46645510
Commissary	85020	10th St & WarriorWay	sprinkler mtr, 40' w	46645508
DEH-Hsg (typ wat)	51537-3	Coushatta St (Com 2)	in yard box	
DEH-Hsg (typ wat)	51544-3	Coushatta St (Com 2)	in yard box	
DEH-Hsg (typ wat)	51764-1	Comanche Cir (Com 2)	in yard box	
DEH-Hsg (Liberty Wat)	99999	250ft e of Clear Crk	n side dirt rd,manhl	
DPCA-BLORA	20104	Cottage Rd	N. of bldg. in Pit	9194422
DPCA-BLORA	20107	Cottage Rd	N. of bldg, in Pit	9194421
DPCA-BLORA	20148adj	East end of Main Rd	E of latrine, in pit	91506501
DPCA-Clear Creek GC	52381	Bn Ave (Comanche 1)	rd to lift sta, pit	flow meter #2
DPCA-Clear Creek GC	51300adj	Osage Ct(Comanche 1)	behind quarters, pit	flow meter #1
DPCA-Clear Creek GC	52381adj	w end Bn Ave (Com 1)	se of clubhouse, pit	flow meter #3
DPCA-Clear Creek GC	52381adj			51388
DPCA-Commu Ctr (CC)	50012	Clear creek rd	south side in pit	00000000
DPCA-Rental Center	4930	Clear creek rd	in pit sw of bldg	48190152
DPCA Warrior Lanes	49010	BLDG 49010		
DPCA Warrior Lanes	49010	BLDG 49010		
ECS Services	4105adj	Motor Pool Road	ne corner in box	37291048
FH Nat Bank,CC	50005	Clear Creek	nw corner in box	8075117
FH Mil Credit Union	322	37th and HQ Ave	north side in box	321148530
Globle Construction	4902adj	Fort Hood	n/a	9999A03
Guyco Construction	43005adj	clear creek rd	base rate	9999A02
Hensel-Phelps	88040		Dol complex	1587071
Hensel-Phelps	88040		N Dol	1600250
Hensel-Phelps	88040		LOGISTICS-CLARK	9999
DPCA-Hunt & Saddle	69002adj	Hood Rd,opp Railhead	w stbls,btwn rds,pit	91506665
DPCA-Main NCO Club	194	37th and HQ Ave	S. side in manhole	392016
DPCA-WFH NCO Club	70005	Base Road, Montague	by elec mtr, in box	91507404
DPCA-Main Off Club	5764	24th and T-D Ave	w 200ft by tree in b	

TABLE 9
Existing Secondary Meters **Not** Connected to the AMR System
Water Distribution System, Fort Hood, Texas

Owner	Bldg. No.	Address	Comment	Meter No.
DPCA-Patton Inn	9212	20th and Central Ave	N. side in pit	91506665
DPCA-Sports Dome	42000	75th and Bn Ave	se mech rm, e wall	92522472
Inland Services	56135	Turkey Run Road	se crnr of bldg, pit	44647117
KISD Clark Elem Sch	51706adj	Comanche Ave (Com 2)	in pit by gas riser	24197891
KISD Clear Crk Sch	4800	Clear Crk & Hwy 190	n side of s entr drv	P019971
KISD Duncan Elem Sch	99999	Entr Rd Comanche 3	s by visitor's park	28638234
KISD Meadow School	422	27th and HQ Ave	at sw st crnr in box	
KISD Smith Jr High	5000adj	Comanche Ave & Cove	east side in pit	15234344
KISD Venable	60090adj	Venable	N. side HYW190	1388192
KISD Venable	60090adj	Venable	S.side by fire plug	48876735
KISD Clear Crk Sch	4800	Clear Crk & Hwy 190	n pit w/ metal cover	
Meddac	2250	Hq Ave		
Meddac	2255	Hq and Support ave	east side mech room	W2255
Metroplex Hospital	99999	Clear Crk & Hwy 190	w side of st,manhole	26160434
AAFES Popeye's Chick	33011	73rd and Battalion	NW corner in box	0024140
MW Builders	Trailor	WEST FORT		
MW Builders		Old Airport Tower		
MW Builders		Old Airport Tower		
DEH-Hsg (Poxon Hse)	111	Hood Rd	w mech rm, on e pipe	7042225
Rust Construction	4105adj	Motor Pool Road	base rate	121212121
Rust Construction	4409			
USA Environmental			MP ROAD AFTER GUYCO	2465788
Universal (/ by 2)	Main Off	entr to Liberty Vil	ne corner, in pit	
AAFES Car Wash, Main	225	42nd and HQ Ave	west side in pit	9999W1

Note: The number and location of meters on Fort Hood may change as on-going and projected projects are implemented. The meters presented in this table represent the Army's knowledge of meters as of the publication of this Attachment.

TABLE 10
Existing Secondary Meters Connected to the AMR System
Water Distribution System, Fort Hood, Texas

Building	AMR-Serial No.	Body-Serial No.	Model
120	2000750639		
51733_5			
420	2000742520		
4222	2000746686		
4441	2000745192		
4902	2000743378		
4905_2	2000742472		
4909	2000691615		
UID = DEFH2705	19006823		
7015	2000743689		
9440	2000707747		
33001	2000742440		
33003	2000707921		
36000_1	2000727083		
36000_2	2000727658		
36000_4	2000708069		
36000_6	2000727169		
36001	2000743629		
36007	2000743921		
36014	2000742143		
36017	2000504081		
36019	2000747332		
36027	2000695309		
36028	2000694798		
39011	2000747658		
39033	2000744366		
76022_2	2000504255		Kent
84215_1	6162056480		ABB
84215_2	5231138163		ABB
84236_1	5231138174		ABB
84236_2	6162056470		ABB

TABLE 10
Existing Secondary Meters Connected to the AMR System
Water Distribution System, Fort Hood, Texas

Building	AMR-Serial No.	Body-Serial No.	Model
84249			
84250_2			
84251_2		5231138346	ABB Scancoder
6608	5231138272		ABB
6610	6161068871		ABB
6734	5232140338		ABB
6735	6162056465		ABB
6737	6162056458		ABB
6809	5231138350		ABB
6813	6161068854		ABB
6822	5231138162		ABB
6831	5231138286		ABB
6851	5231138175		ABB
71007		5231138334	ABB Scancoder
72013_1		5231138345	ABB Scancoder
72013_2		6161068861	ABB Scancoder
76006		5232140206	ABB Scancoder
76008		6162056621	ABB Scancoder
76014		6161068853	ABB Scancoder
77006		5231138158	ABB Scancoder
77010_1		5231138273	ABB Scancoder
77010_2		5231138332	ABB Scancoder
77018_1		6162056466	ABB Scancoder
77018_2		5232140342	ABB Scancoder
80004_1		6162056125	ABB Scancoder
81007_1		5232140216	ABB Scancoder
81007_2		5232140295	ABB Scancoder
81008_1		5231138170	ABB Scancoder
81008_2		6162056625	ABB Scancoder
81009_1		6162056484	ABB Scancoder
81009_2		6162056633	ABB Scancoder

TABLE 10
Existing Secondary Meters Connected to the AMR System
Water Distribution System, Fort Hood, Texas

Building	AMR-Serial No.	Body-Serial No.	Model
81010_1		5232140294	ABB Scancoder
81010_2		6162056469	ABB Scancoder
60006_1		6162056477	ABB
60006_2		5231138290	ABB
60009_1		5231138301	ABB
60009_2		6162056607	ABB
60033_1		6161068864	ABB
60033_2		5231138275	ABB
60048_1		5232140291	ABB
60048_2		5231138571	ABB
60073_1		5232140300	ABB
60073_2		5231138294	ABB
51213_1	None		
51213_2	None		
48557_1	2000226186		Kent
48557_2	2000212811		Kent
48559_1	2000213253		Kent
48559_2	2000213249		Kent
48560_1	6161089680		ABB
48561_1		2000212801	Kent
48561_2		2000212799	Kent
48562_2		2000219015	Kent
48565_1		Unknown	Sensus
48565_2		Unknown	Sensus
5712_1		6162056601	ABB Scancoder
5712_2		6162056643	ABB Scancoder
5736_2		52232140287	ABB Scancoder
5773_1		6162056473	ABB Scancoder
5773_2		6161068880	ABB Scancoder
5860_1		5232140217	ABB Scancoder
5860_2		6162056645	ABB Scancoder

TABLE 10
Existing Secondary Meters Connected to the AMR System
Water Distribution System, Fort Hood, Texas

Building	AMR-Serial No.	Body-Serial No.	Model
5868_1		5231138176	ABB Scancoder
5868_2		6162056486	ABB Scancoder
5886		6162056478	ABB Scancoder
5962		6162056481	ABB Scancoder
5781_1		5231138172	ABB Scancoder
8121		5232140296	ABB Scancoder
8146		5231138567	ABB Scancoder
8148		6122056478	ABB Scancoder
8151		6162056471	ABB Scancoder
8201		6161068859	ABB Scancoder
8206		525214209	ABB Scancoder
8260		616205644	ABB Scancoder
8262		6162056656	ABB Scancoder
5258_1		6161069017	ABB
5258_2		5231138279	ABB
5313_1		5231138331	ABB
5313_2		532140336	ABB
5318_1		5231138342	ABB
5318_2		5231138299	ABB
5320_1		523240334	ABB
5320_2		5232140297	ABB
5465_1		5232140304	ABB
5465_2		5232140212	ABB
5512_1		5231138351	ABB
5512_2		5231138336	ABB
5515_1		616068988	ABB
5515_2		6161068988	ABB
5544_1		5231138300	ABB
5544_2		5231138293	ABB
5546_1		6161068862	ABB
5546_2		5231138274	ABB

TABLE 10
Existing Secondary Meters Connected to the AMR System
Water Distribution System, Fort Hood, Texas

Building	AMR-Serial No.	Body-Serial No.	Model
5559_1		5231138340	ABB
5559_2		5232140290	ABB
5568_1		6161069016	ABB
5568_2		6162056460	ABB
5607_1		5321138548	ABB
5607_2		5321138330	ABB
5641_1		5231138341	ABB
5641_2		6162056472	ABB
5642_1		6162056467	ABB
5642_2		5232140332	ABB
5658_1		5232140345	ABB
5658_2		52321138276	ABB
83001_1		5231138338	ABB Scancoder
83001_2		5232140222	ABB Scancoder
84138_1	10521392		Sensus
84138_2	54962520		Sensus
84139_1	09742460		Sensus
84139_2	09787112		Sensus
84140	09792136		Sensus
84141_1	09849237		Sensus
84141_2	09742463		Sensus
84142_1	09792137		Sensus
84142_2	09813591		Sensus
84143	09787119		Sensus
90043	2000746517		

Note: The number and location of meters on Fort Hood may change as on-going and projected projects are implemented. The meters presented in this table represent the Army's knowledge of meters as of the publication of this Attachment.

J3.5.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in **Table 11**. New secondary meters shall be installed IAW Paragraph C.13, Operational Transition Plan, and

J1.3, Specific Service Requirements. After installation, the Contractor shall maintain and read these meters IAW Paragraphs C.3.3, Metering, and J3.6 below.

TABLE 11
New Secondary Meters
Water Distribution System, Fort Hood, Texas

Meter Location	Meter Description
There are no new secondary meters required for the Fort Hood Water Distribution System	

J3.6 Monthly Submittals

The Contractor shall provide the Government monthly submittals for the following:

1. Invoice (IAW G.2). The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to:

   Name: DIRECTORATE OF PUBLIC WORKS
   ATTN (Barry Barnett- Contracting Command)
   III CORPS AND FORT HOOD
   Address: 4612 ENGINEER DRIVE, ROOM 76
   FORT HOOD, TEXAS 76544-5028
   Phone number: (254) 287-3054

2. Outage Report. The Contractor's monthly outage report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall be submitted by the 25th of each month for the previous month. Outage reports shall be submitted to:

   Name: DIRECTORATE OF PUBLIC WORKS
   ATTN (Bobby Lynn- DPW)
   III CORPS AND FORT HOOD
   Address: 77TH AND WAREHOUSE AVE., BLDG. 4219
   FORT HOOD, TEXAS 76544-5028
   Phone number: (254) 287-3054

3. Meter Reading Report. The monthly meter reading report shall show the current and previous month's readings for all identified secondary meters. The Contractor's monthly meter reading report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Meter reading reports shall be submitted by the 15th of each month for the previous month. Meter reading reports shall be submitted to:

   Name: DIRECTORATE OF PUBLIC WORKS
   ATTN (Bobby Lynn- DPW)
   III CORPS AND FORT HOOD

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J3.7 Water Conservation Projects

IAW Paragraph C.3.4, Energy and Water Efficiency and Conservation, the following projects have been implemented by the Government for conservation purposes.

- None

J3.8 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the Fort Hood boundaries and include the Main Cantonment Area, West Fort Hood, North Fort Hood, the Ranges, and BLORA.

J3.9 Off-Installation Sites

No off-installation sites are included in the privatization of the Fort Hood water distribution system.

J3.10 Specific Transition Requirements

IAW Paragraph C.13, Transition Plan, **Table 12** provides a listing of service connections and disconnections required upon transfer.

TABLE 12
Service Connections and Disconnections
Water Distribution System, Fort Hood, Texas

Location	Description
There are no service connections or disconnections required upon transfer of the Fort Hood Water Distribution System	

J3.11 Government Recognized System Deficiencies

Table 13 provides a listing of Government recognized deficiencies. The deficiencies listed may be physical deficiencies, functional deficiencies, or operational in nature. If the utility system is sold, the Government will not accomplish a remedy for the recognized deficiencies listed. The Offeror shall make a determination as to its actual need to accomplish and the timing of any and all such deficiency remedies.

Physical and functional deficiencies may require capital to be invested in the system. If any deficiency remedy requires a capital upgrade project, the capital upgrade project shall be proposed according to the following:

- Capital upgrade projects required to bring the system to standard shall be proposed under Schedule L-3.
- Capital upgrade projects required to replace system components shall be proposed in the first years of Schedule L-2 and the cost factored into Schedule L-1 for Renewals and replacements as part of CLIN AA.
- Transition costs shall be proposed as a one-time cost and shall be treated similar to a capital project and included in Schedule L-3.
- Improvements proposed in the operational component of the work shall be included in Schedule L-1 as part of CLIN AA.

TABLE 13
System Deficiencies
Water Distribution System, Fort Hood, Texas

System Component	Deficiency Description	Type of Project
Distribution System Components	Some valves and distribution system piping are beyond their projected useful life. Replacement of system components that are beyond their useful lives and are not performing as designed should be made.	Renewals and Replacement [1]
6898 Pump station	1. Pump 5 is inoperative due to bearing. 2. SCADA instrumentation is inoperative and out-of-date.	Capital Upgrade
93022 Pump station	Pump No. 2 is inoperative.	Capital Upgrade
69010 Pump station	Structural repair pump station building to correct settlement problems.	Capital Upgrade
6891 Water storage tank	Cracks in tank walls. Possible contamination hazard.	Capital Upgrade
4655 Water storage tank	The interior of the tank is in a seriously degraded condition. Tank exterior has been painted in lead-based paint. Shrouding will be required whenever the tank is repainted to prevent dispersal of lead into the local environment.	O&M

TABLE 13
System Deficiencies
Water Distribution System, Fort Hood, Texas

System Component	Deficiency Description	Type of Project
SCADA System	1. System ineffective and out-of-date. 2. Instrumentation at data points requires upgrade. 3. Computer hardware/software upgrade is required.	Capital Upgrade

Notes:
1 – The study of the water distribution system was limited to the physical condition of the piping system. Review of its hydraulic adequacy was not investigated beyond the comments offered by the system operators and maintenance staff. The water distribution system study sponsored by the US Army Corps of Engineers may identify piping shortfalls that will require significant capital to remedy. It may also identify that the system can be made more efficient by eliminating selected pump stations by making changes in the piping system. Readers of this report are strongly encouraged to review the results of the US Army Corps of Engineers work in order to fully understand conditions affecting the water distribution system at Fort Hood.

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